

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-6 (Cancelled)

7. (New) A refrigeration dual circuit evaporator comprising:

two main circuits, each containing a plurality of individual circuits that, when viewed in cross section, overlap one another in the direction of air flow through the evaporator, said plurality of individual circuits of each main circuit being connected together with a common distributor, and said two main circuits being arranged within said evaporator such that, when one main circuit is active, air flowing through the evaporator contacts a portion of the active main circuit across the entire face of the evaporator,

wherein each individual circuit has a flash gas loss region, a highest temperature phase change region, a lowest temperature phase change region, and a superheat region located in series, and the circuit is structured such that air flow through the evaporator exits said flash gas loss region before exiting said highest temperature phase change region, exits said superheat region before exiting said lowest temperature phase change region, and at least a portion of the air flow passing through said flash gas loss region passes through at least one of said superheat region and a superheat region of another of said individual circuits.

8. (New) A refrigeration dual circuit evaporator comprising:

two main circuits, each containing a plurality of individual circuits that, when viewed in cross section, are arranged completely diagonally with respect to the direction of air flow through the evaporator, said plurality of individual circuits of each main circuit being connected together with a common distributor, and said two

main circuits being arranged within said evaporator such that, when one main circuit is active, air flowing through the evaporator contacts a portion of the active main circuit across the entire face of the evaporator,

wherein each individual circuit has a flash gas loss region, a highest temperature phase change region, a lowest temperature phase change region, and a superheat region located in series, and the circuit is structured such that air flow through the evaporator exits said flash gas loss region before exiting said highest temperature phase change region, exits said superheat region before exiting said lowest temperature phase change region, and at least a portion of the air flow passing through said flash gas loss region passes through at least one of said superheat region and a superheat region of another of said individual circuits.

9. (New) A refrigeration dual circuit evaporator comprising:

two main circuits, each containing a plurality of individual circuits, each individual circuit overlapping another said individual circuit from another of said main circuits in the direction of airflow through the evaporator, said plurality of individual circuits of each main circuit being connected together with a common distributor such that the input and output of each main circuit are arranged on the air flow upstream side of the compressor, and said two main circuits being arranged within said evaporator such that, when one main circuit is active, air flowing through the evaporator contacts a portion of the active main circuit across the entire face of the evaporator,

wherein each individual circuit has a flash gas loss region, a highest temperature phase change region, a lowest temperature phase change region, and a superheat region located in series, and the circuit is structured such that air flow through the evaporator exits said flash gas loss region before exiting said highest temperature phase change region, exits said superheat region before exiting said lowest temperature phase change region, and at least a portion of the air flow passing

through said flash gas loss region passes through at least one of said superheat region and a superheat region of another of said individual circuits.

10. (New) A heat pump dual circuit evaporator comprising:

two main circuits, each containing a plurality of individual circuits that, when viewed in cross section, overlap one another in the direction of air flow through the evaporator, said plurality of individual circuits of each main circuit being connected together with a common distributor, and said two main circuits being arranged within said evaporator such that, when one main circuit is active, air flowing through the evaporator contacts a portion of the active main circuit across the entire face of the evaporator,

wherein each individual circuit has a flash gas loss region, a highest temperature phase change region, a lowest temperature phase change region, and a superheat region located in series, and the circuit is structured such that air flow through the evaporator exits said flash gas loss region before exiting said highest temperature phase change region, exits said superheat region before exiting said lowest temperature phase change region, and at least a portion of the air flow passing through said flash gas loss region passes through at least one of said superheat region and a superheat region of another of said individual circuits.

11. (New) A heat pump dual circuit evaporator comprising:

two main circuits, each containing a plurality of individual circuits that, when viewed in cross section, are arranged completely diagonally with respect to the direction of air flow through the evaporator, said plurality of individual circuits of each main circuit being connected together with a common distributor, and said two main circuits being arranged within said evaporator such that, when one main circuit is active, air flowing through the evaporator contacts a portion of the active main circuit across the entire face of the evaporator,

wherein each individual circuit has a flash gas loss region, a highest temperature phase change region, a lowest temperature phase change region, and a superheat region located in series, and the circuit is structured such that air flow through the evaporator exits said flash gas loss region before exiting said highest temperature phase change region, exits said superheat region before exiting said lowest temperature phase change region, and at least a portion of the air flow passing through said flash gas loss region passes through at least one of said superheat region and a superheat region of another of said individual circuits.

12. (New) A heat pump dual circuit evaporator comprising:

two main circuits, each containing a plurality of individual circuits, each individual circuit overlapping another said individual circuit from another of said main circuits in the direction of airflow through the evaporator, said plurality of individual circuits of each main circuit being connected together with a common distributor such that the input and output of each main circuit are arranged on the air flow upstream side of the compressor, and said two main circuits being arranged within said evaporator such that, when one main circuit is active, air flowing through the evaporator contacts a portion of the active main circuit across the entire face of the evaporator,

wherein each individual circuit has a flash gas loss region, a highest temperature phase change region, a lowest temperature phase change region, and a superheat region located in series, and the circuit is structured such that air flow through the evaporator exits said flash gas loss region before exiting said highest temperature phase change region, exits said superheat region before exiting said lowest temperature phase change region, and at least a portion of the air flow passing through said flash gas loss region passes through at least one of said superheat region and a superheat region of another of said individual circuits.